

REMARKS

The present application includes claims 1-4, 6 and 7. Claim 5 has been cancelled. Claims 1 -3 and 6 have been amended. No new matter has been added. The applicants respectfully request reexamination and reconsideration.

In the March 21, 2008 Office Action, the Examiner rejected claims 1 – 3 and 6 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,181,796 to Johnson (“the Johnson reference”). The Examiner rejected claim 4 as being anticipated by the Johnson reference and further in view of Official Notice. The Examiner rejected claim 5 under 35 U.S.C. § 103(a) as being anticipated by the Johnson reference and U.S. Patent No. 4,503,554 to Davis (“the Davis reference”). The Examiner rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over the Johnson reference in view of U.S. Patent No. 6,748,096 to Chuang (“the Chuang reference”). These rejections are respectfully traversed in so far as they are applicable to the presently pending claims.

Claim 1, as amended, recites:

An array driving system for driving a plurality of speaker units comprising:
the plurality of speaker units arranged like an two-dimensional array;
and
a plurality of driving circuits provided to correspond with the plurality of speaker units, respectively,
wherein first terminals of the plurality of speaker units are respectively connected to corresponding outputs of the plurality of driving circuits and the other terminals thereof are connected to each other, and
wherein driving signals to which a predetermined delay is given respectively to realize an acoustic lens effect are respectively supplied to the plurality of speaker units so that a phase of the driving signal supplied to one of the plurality of loads is opposed to that of the driving signal supplied to the adjacent loads.

The Examiner states that Figures 5 - 7 of the Johnson reference disclose that driving

signals are supplied to the plurality of loads so that a phase of the driving signal supplied to one of the plurality of loads is opposed to that of the driving signal supplied to the adjacent loads of different phase polarity. (*Office Action, page 2*). The applicants have amended the claims to further clarify the invention. First, the speakers of the Johnson reference are not arranged in a two-dimensional array, as is recited in claim 1, as amended.

Further, Figs. 5 – 7 of the Johnson reference illustrate two separate channels (i.e., 111R and 111L) which are correlated. The Johnson reference discloses that any phase shift is provided by an inverting amplifier 120, which is not the same as **driving signals to which a predetermined delay is given**. Specifically, in the Johnson reference, the phase-shifted signal out of the inverting amplifier 120 is amplified, but the original signal is not phase-shifted nor is it amplified. Further, the Johnson reference does not disclose that **its driving signals realize the acoustic lens effect**, as is recited in claim 1, as amended. Accordingly, applicants respectfully submit that claim 1, as amended, distinguishes over the Johnson reference.

The Davis reference does not make up for the deficiencies of the Johnson reference. The Examiner utilizes the Davis reference to disclose a system having a similar concept of array drivers which have a plurality of LEDs and anodes and cathodes of the adjacent LEDs which are connected to a common line and further cathodes are connected to the common line. In addition, the Davis reference discloses that the power supply resistor indicates the working conditions of the blend circuit. (*Office Action, pages 6 and 7*). However, the Davis reference does not disclose an array driving system including a **plurality of speaker units arranged like an two-dimensional array**; and a plurality of driving circuits provided to correspond with the plurality of speaker units, respectively, wherein first terminals of the plurality of speaker units are respectively connected to corresponding outputs of the plurality of driving circuits and the other

terminals thereof are connected each other, and **wherein driving signals to which a predetermined delay is given respectively to realize an acoustic lens effect** are respectively supplied to the plurality of speaker units. Accordingly, applicants respectfully submit that claim 1, as amended, distinguishes over the Davis / Johnson combination.

Independent claim 6, as amended, recites limitations similar to claim 1. Accordingly, applicants respectfully submit that claim 6 distinguishes over the Johnson / Davis combination for reasons similar to those discussed above in regard to claim 1.

Claims 2 – 5 depend, indirectly or directly, on independent claim 1, as amended. Accordingly, applicants respectfully submit that claims 2 – 5 distinguish over the Johnson / Davis combination for the same reasons as those discussed above in regard to claim 1.

Previously presented 7 distinguishes over the cited references. Claim 7 recites:

An array driving system for driving a number n of loads comprising:
the n number of loads arranged like an array; and
a number n of driving circuits provided to correspond with the n number of loads, respectively,
wherein one terminal of the n number of loads are respectively connected to corresponding outputs of the n number of driving circuits and the other terminals thereof are connected with each other which only requires $(n + 1)$ wirings for the array driving system, and
wherein driving signals are respectively supplied to the n number of loads so that a phase of the driving signal supplied to one of the n number of loads is opposed to that of the driving signal supplied to the adjacent loads.

The Examiner states the Johnson reference does not disclose, teach or suggest the highlighted limitations of claim 7, i.e., fails to disclose the wiring and further the specific requirement of only $(n + 1)$ wirings for the array driving system. (*Office Action, page 8*). The applicant agrees with the Examiner and respectfully submits that claim 7 distinguishes over the Johnson reference. The Examiner states that the Chuang reference discloses a system with wiring and the similar concept of reduced wirings for the array driving system in Fig. 4, column

1, lines 30 -34. (*Office Action, page 8*). Thus, the Examiner states that the Chuang reference discloses the highlighted limitation. The applicants respectfully disagree.

The Chuang reference discloses that existing wiring in an environment can be utilized to drive a number of speakers. An AC voltage (e.g., 120 V AC) is received by an A/D adapter 21 and converted into a voltage appropriate for use with a reception circuit 22 and an amplification circuit 23 (e.g., a voltage of 5 V or 12 V). (*Chuang, col. 2, lines 11 – 17*). The sound signal is transmitted to the reception circuit (via a wired or wireless connection). The amplification circuit 23 amplifies the signals received from the reception circuit 22 and then produces sound through said speaker 10. (*Chuang, col. 2, lines 17 – 20*). The Examiner does not state what specific reference numerals disclose the highlighted limitation. The applicants believe that the Examiner is indicating that the connection of the speaker to the reception and amplification circuit meets the limitation **wherein one terminal of the n number of loads are respectively connected to corresponding outputs of the n number of driving circuits**. However, the Chuang reference does not disclose the limitation of **“the other terminals thereof are connected with each which only requires (n+1) wirings for the array driving system”** because the other terminals of all the Chuang loads (i.e., light bulbs) are not connected with each other. In the Chuang reference, the AC power supply is connected to an A/D converter in the bulb assembly, which is then connected to the reception circuit, amplification circuit and then the speaker in the bulb assembly. In other words, the terminals of all the speakers are connected to an individual amplification circuit in each bulb assembly and not to each other. Accordingly, the applicants respectfully submit that claim 7 distinguishes over the Chuang / Johnson combination.

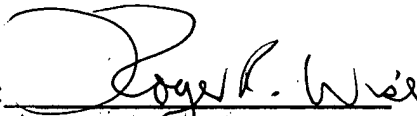
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Applicants believe that the claims are in condition for allowance, and a favorable action is respectfully requested. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call either of the undersigned attorneys at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the Examiner believe that such a telephone conference would advance prosecution of the application.

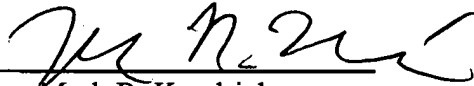
Respectfully submitted,

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JUL 23 2008